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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/584,835	05/31/2000	Robert A. Conant	9840-055-999	2586

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EXAMINER

ROBINSON, MARK A

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 02/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/584,835

Applicant(s)

CONANT ET AL.

Examiner

Mark A. Robinson

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 and 24-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4, 8, 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of group I and species b. in Paper No. 11 is acknowledged. Claims 1-12 and 21-23 have been deemed to read on the elected invention and will be examined as follows. Claims 13-20 and 24-27 are withdrawn from consideration as being drawn to non-elected subject matter.

Claim Objections

1. Claim 11 is objected to because of the following informalities: it appears that "wherein" should be included in line 1. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-4,6-9,12 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamada et al made of record.

With respect to claims 1-4,6,12 and 22, Yamada shows in fig. 11 a staggered torsional electrostatic combdrive including stationary(7a,7b) and moving(5) combteeth assemblies, silicon mirror(2) pivoting about a torsional hinge(3a,3b), and anchor(1/4a,4b), with the moving combteeth assembly positioned above the stationary assembly during a resting state and the mirror intersecting a plane containing the stationary combteeth during an active state.

With respect to claims 7-9, Yamada teaches the combteeth assemblies to have a thickness of between 50 and 100 microns and the mirror to have a length less than 10 mm (see the first paragraph of col. 5).

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Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5,10,11,21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al.

With respect to claim 5, Yamada does not teach the gap between the two assemblies during the rest state to be between .2 and .3 microns. However, Yamada recognizes the desirability of a small gap between the two sets of combteeth. It would have been obvious to the ordinarily skilled artisan at the time of invention to utilize a gap in this range in order to reduce the amount of driving force necessary to drive the mirror.

With respect to claims 10 and 11, although Yamada does not disclose the length of the mirror to be between 550 and 2000 microns or the gap between the individual combteeth to be between 2 and 30 microns, such considerations are well within the level of ordinary skill in the art and would have been obvious at the time of invention depending upon the desired

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shape or configuration of the output beam and the desired amount of required driving force.

With respect to claim 21, Yamada does not teach a transparent substrate for enclosing the assemblies. However, such enclosures are commonly used in conjunction with electrostatic drive assemblies and would have been obvious at the time of invention to provide protection against foreign particles, etc. from interfering with the operation of the device.

With respect to claim 23, although Yamada does not teach a multilayer optical filter, such are well known. Use thereof in place of Yamada's reflective mirror would have been obvious to the ordinarily skilled artisan at the time of invention to enable output or deflection of beams of light with particular wavelengths.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee et al disclose an electrostatic combdrive.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Robinson whose telephone number is (703) 305-3506.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached at (703) 308-1687. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Mark Robinson', is written over a horizontal line.

Mark Robinson

Patent Examiner

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1/30/02